

SECTION FOUR:

Transportation & Traffic Circulation



BENCHMARK INCORPORATED

LOCAL GOVERNMENT SERVICES

Planning, Community Development and Management

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Catawba County is fortunate to have very few unpaved roads in the County. In 1995, the County was ranked 7th in the State with 2.3 linear miles of paved roads per square mile. This figure has improved slightly since 1980 when the County was ranked 8th. 1995 figures show that the County has 920 miles of paved roads and only 91 miles of unpaved roads. There are 132 miles of primary roads and highways and 879 miles of secondary roads for a total of 1,011 miles of roads. In 1995, Catawba County was ranked 15th in North Carolina with 856.6 registered vehicles per 1,000 population. The County is home to a full service regional airport, a major rail line and it offers its citizens the option of using public transportation.

Air Travel

Catawba County is served with passenger and freight airline service through the Hickory Regional Airport. US Air Express provides more than twenty flights in and out of the airport per day. Over 28,000 passengers enplaned and deplaned at the Hickory Regional Airport in 1995 and an estimated 50,000 lbs. of cargo was transported the same year. Charlotte/Douglas International Airport, a major national airline hub, is located no more than 45 minutes by car from many southern portions of Catawba County.

Rail Service

Catawba County is served with railroad freight service by the Norfolk-Southern Railway. A railroad mainline bisects the County in an east/west manner paralleling US Highway 70. A spur line extends south through Newton. The Caldwell County Railroad links Lenoir with the Norfolk-Southern mainline in Hickory. No passenger service is available anywhere in Catawba County. However, a recent NC Department of Transportation study found that there would be sufficient support for passenger service linking Asheville and Salisbury through Catawba County. State funding for the necessary passenger cars and depot renovations is pending.

Public Transit

The Piedmont Wagon Transit System (PWTS) has provided public transportation in the Cities of Hickory, Newton and Conover since 1987. Catawba County was a partner in providing direct funding for the system during its first five years of operation. Since that time, the County has purchased fares for many of its clients of its human service agencies. As of January 1, 1999 Catawba County became an official member of the Piedmont Wagon System primarily for the purpose of providing public transit opportunities to residents in rural areas and to help avoid duplication of other County transit services.

Thoroughfare Planning

In most urban areas in North Carolina, local transportation planning is provided by State and Federally funded transportation planning agencies which are often staffed under contract by cities or counties. Catawba County is fortunate to have perhaps the most respected Metropolitan Planning Organization (MPO) in the State. The Hickory-Newton-Conover Urban Area MPO is staffed by the Western Piedmont Council of Governments (WPCOG) in Hickory. The WPCOG's neutral and regional approach to transportation planning has served the area well for a number of years.

There are three thoroughfare plans for Catawba County. In 1997 the Hickory-Newton-Conover Urban Area Transportation Plan was revised and adopted by each member of the Metropolitan Planning Organization (MPO). This plan details transportation issues for areas located roughly north of NC 10 into Alexander County. It includes each municipality (except Maiden) as well as portions of Caldwell, Burke, and Alexander counties. The planning area does not include the southern third of Catawba County, which contains the NC 150 corridor, a major growth area of the County.

In 1992, Catawba County adopted the 1991 Thoroughfare Plan. This plan addresses transportation needs in the County outside the planning area of the Hickory-Newton-Conover MPO. Since its adoption there have been many major changes in State and Federal requirements. This plan does not delve into such issues as bicycle and pedestrian needs or new transportation issues brought on by high-growth areas. This plan is rapidly becoming outdated and should be expanded to include these new subjects. The Maiden Thoroughfare Plan is a local thoroughfare plan that addresses the transportation needs in and around the Town of Maiden which are not contained in the other two thoroughfare plans.

The following overview will discuss the traffic/transportation inventory for those areas outside the municipal jurisdictions. Numbers have been referenced from the aforementioned plans. Updated traffic counts and reports from the Western Piedmont Council of Governments (WPCOG) and the North Carolina Department of Transportation (NCDOT) are used where available.

Major Thoroughfares

Interstate 40 provides major travel service for the majority of the County and handles the bulk of the area's through travel. Traffic counts done in 1997 show that the section of I-40 between the Iredell County line and Conover, is currently between 31,700 - 32,100 average daily trips (ADT), well under the practical carrying capacity of 60,000. By the year 2020, this

section is expected to stay within its practical carrying capacity. These counts show that I-40 is presently performing at an adequate level of service and is expected to continue this trend through the year 2020.

The new US 321 Freeway, like I-40, is a major travel service provider. The State has recently completed the last section, a four-lane controlled access thoroughfare that extends from Gastonia to the Hickory-Newton-Conover urban area. The new freeway serves three purposes, 1) to connect the Charlotte-Gastonia-Lincolnton urban areas with the Hickory-Newton-Conover urban areas, 2) to divert through traffic from Hwy. 321 Business, and 3) to open the possibility of economic development along the corridor. It is projected that this new thoroughfare will generate approximately 23,700 - 34,300 trips per day for the section located in the MPO planning area.

US Highway 70 is a major thoroughfare that varies in cross section width and type from one end of the County to the other. It serves as a radial serving both external-internal and inter-city traffic and serves major industrial and commercial developments that abut the thoroughfare. The portion of this arterial in the County from Claremont to the Iredell County line was shown to be at 2,100 ADT in 1992 and 3,300 ADT in 1997. This stretch of highway is projected to be at 12,200 ADT in the year 2020, well under its practical capacity of 14,700.

NC Highway 127 is a major thoroughfare that spans from Alexander County to NC 10 through Hickory and the Mountain View community. According to the County's 1991 plan, by the year 2010, NC 127 from NC 10 to the MPO planning boundary is expected to surpass its practical carrying capacity of 9,900 to 10,800 ADT. Currently, NC 127 south of the Jacob's Fork River is at 7,900 ADT, and between the Jacob's Fork and SR 1132 (Huffman Farm Rd.) the traffic count is 9,100 ADT, both under capacity. However, between SR 1132 and SR 1176 (Bethel Church Rd.) the daily trips are between 12,300 and 15,300 ADT, well over the practical capacity of 10,800 ADT. Due to traffic counts approaching practical capacity and on some stretches surpassing them, it has been recommended that this arterial be improved. Hwy. 127 north of the Jacobs Fork River is recommended to be improved to a four lane divided urban thoroughfare with a 90 foot right-of-way four lane urban thoroughfare and the section south of the River to NC Hwy. 10 is recommended to be improved to a with a 70 foot right-of-way.

NC Highway 10 is a major radial primarily serving the mid to southern end of the County. The majority of the traffic generated on this route is external-internal with a small amount of through travel. It also serves adjacent residential and commercial development. The section of this highway located outside of the incorporated areas will be highly affected by the new

321 freeway. The ADT for the section between the Jacob Fork River and SR 1005 (Startown Rd.), with the new US 321 corridor located between the two, will more than double by the year 2020 to approximately 26,900 trips per day. This number is almost twice that of its practical carrying capacity of 13,700 ADT. Based on these figures, it is recommended in the plan that these sections be widened to a four lane divided highway with a median and curb and gutter. In the 1991 Catawba County Thoroughfare Plan it was predicted that NC 10 from the Lincoln County line to NC 127 would surpass its practical limit of 10,000 ADT by the year 2010. The predicted counts were 10,300 and 12,100 respectively. It was recommended that this road be improved to a two lane rural highway with a one hundred foot right-of-way width.

New 1997 traffic counts show that from the Lincoln County line to the intersection of NC 127 the ADT varies from 5,300 to 6,000 and from NC 127 to SR 1005 the count is 7,400 trips. This shows that the section between SR 1005 and NC 127 is approaching its practical capacity of 11,000 ADT, while the remainder of the route is still well below its capacity.

The Catawba County Transportation Advisory Committee (a formal advisory committee of the MPO) requested that NC 10 be widened to a multi-lane facility from the new US 321 Freeway east to the Hwy. 321 Business in Newton.

NC Highway 16 is a major north-south arterial which serves the Newton-Conover area and the eastern portion of Catawba County. The portion of this artery in the County's jurisdiction serves as a valuable link to the Charlotte urban area and serves both residential and commercial development that abuts the highway.

The portion of NC 16 southeast of SR 1804 (Caleb Setzer Rd.) to the Newton city limits, which was studied in the 1997 MPO Thoroughfare Plan, was deemed adequate. However, the projected 2020 traffic count shows an increase along this stretch to between 18,600 and 19,600 ADT. The northernmost section of NC 16 located north of Conover is currently under capacity. However, with the influx of growth around the Catawba River and Lake Hickory it is expected that this section of road will be over its practical capacity. The MPO plan expects the section between the River and SR 1700 (Springs Rd.) to generate approximately 23,200 ADT by the year 2020. This count is much higher than the prescribed carrying capacity of 13,700 ADT. It is recommended, based on these assumptions, that this section of highway be widened to a five lane thoroughfare with curb and gutter.

Hwy. 16 is broken into two segments for planning purposes, one extending from the Lincoln County line to SR 1810 (Balls Creek Rd./Providence Mill Rd.) and the other from SR 1810

to the Hickory-Newton-Conover planning boundary. It is expected that these segments will exceed its practical limits of 6,400 and 8,700 ADT by 2010, with expected trips per day of 9,700 and 11,300 respectively. This growth has warranted a recommendation to widen the existing facility to a four lane divided urban boulevard with a grass median and a 150 foot right-of-way outside the MPO boundaries.

Updated traffic studies completed in 1997 show that NC 16 is generating 9,900 ADT from the intersection with the MPO boundary south to the intersection with NC 150. From 150 to the Lincoln County line the ADT is 16,600, almost twice the practical carrying capacity of 9,700.

Highway 16 is included in the 1998-2004 TIP (Transportation Improvement Program) as two separate projects. One project is to construct a four lane divided road on a new location continuing from the Lincoln County line to merge into the existing Hwy. 16 north of Tower Road. The other project is for the widening of existing Hwy. 16 from the end of the first project to SR 1800 (Caleb Setzer Rd.), southeast of Newton.

NC Highway 150 spans from Iredell to Lincoln County and has been predicted to exceed its current carrying capacity of 9,900 ADT. By 2010 it is expected that this road will reach 16,200 ADT. Updated traffic counts were taken in 1997 which showed that NC 150 has surpassed its carrying capacity with 10,000 ADT east of SR 1848 (Sherrills Ford Rd.), and is rapidly approaching this total at all points west of SR 1848.

Other Roads and Highways of Concern

Springs Rd. (SR 1453/1517) extending from the intersection with NC 16 to its meeting with SR 1453 (St. Peters Church Rd.) is currently generating 3,600 ADT and from SR 1453 to SR 1504 (Charlotte/Thomasville Rd.) is 7,600. By the year 2020 these numbers should jump to 19,100 and 23,400 respectively, a direct result of the booming population in the area. Based on these assumptions, a five lane thoroughfare with curb and gutter and a 90 foot right-of-way is recommended.

Startown Rd. (SR 1005) is in a very strategic location. It is a major connector which links NC 10 to US 70 and I-40, and provides direct access to the new US 321 Freeway. It has been requested that this road be placed in the NC DOT STIP (State Transportation Improvement Program) to be widened to a multi-lane facility from US 70 to NC 10.

Highway Capacity

The majority of the major thoroughfares in Catawba County are presently within their practical carrying capacities. Two major thoroughfares in the County's jurisdiction that are currently under their practical capacities and are predicted to remain under capacity in 2020 are I-40 and US 70. Two new projects, US 321 Freeway and the NC 16 widening, which is in the planning stages, should meet the increased traffic needs in their respective areas. NC 10 is currently near capacity but not over. However, by the year 2010 it has been predicted that NC 10 will surpass its maximum trips per day. Only NC 150 and NC 127 are currently over their practical carrying capacities and have no set plans in place for improvements. The following tables show the current conditions, as well as predictions by NCDOT for the primary thoroughfares in the County.

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Table 4.1
Selected Catawba County Traffic Counts and Adequacy Designation*

Thoroughfare	1992	1997	2010	2020	Practical Capacity	Deficiency/Adequacy
I-40	n/a	31,700-32,100	n/a	49,800-51,900	60,000	adequate
US 321	n/a	n/a	n/a	n/a	n/a	adequate
US 70	2,100	3,300	n/a	12,200	14,700	adequate
NC 127	n/a	7,900-9,100	10,800	n/a	9,900	-900 by 2010
NC 127 from SR 1132- SR 1176	n/a	12,300-15,300	n/a	n/a	10,800	-4,500 currently
NC 10 from Jacob's Fork - SR 1005	n/a	7,400	n/a	26,900	13,700	-13,200 by 2020
NC 10 from Lincoln Co. - NC 127	4,500-5,300	5,300-6,000	10,300-12,100	n/a	10,000	-2,100 by 2010
NC 16 from Newton - SR 1804	9,200	n/a	n/a	18,600-19,600	13,700	-5,900 by 2020
NC 16 from Catawba River - SR 1700	7,700	n/a	n/a	23,200	13,700	-9,500 by 2020
NC 16 from MPO Bound.- Lincoln Co.	n/a	n/a	9,700-11,300	n/a	6,400-8,700	-2,600 by 2010
NC 16 from NC 150- Lincoln Co.	n/a	9,900-16,600	n/a	n/a	9,700	-6,900 currently
NC 150	n/a	10,000	16,200	n/a	9,900	-100 currently
Springs Rd. NC 16- 1453	n/a	3,600	n/a	19,100	no recommendation	n/a
Springs Rd. 1453- 1504	n/a	7,600	n/a	23,400	no recommendation	n/a

Source: Hickory-Newton-Conover Urban Area Transportation Plan and Catawba County 1991 Thoroughfare Plan *Traffic counts performed by NCDOT are available for certain years only due to the dates of study related to the two respective plans.

Table 4.2
Thoroughfare Plan Recommendations

Thoroughfare	Recommendations	
	1991 Catawba County Plan (based on 2010 predictions)	Hickory Conover Urban Area Transportation Plan (based on 2020 predictions)
I-40	Adequate	Adequate
US 321 Freeway	n/a	Adequate
US 70	Adequate	Adequate
NC 127	Four lane urban thoroughfare - 70' ROW	Four lane w/ raised median & curb & gutter - 90' ROW
NC 10	Two lane urban highway - 100' ROW	Four lane w/ raised median & curb & gutter - 90' ROW
NC 16	Four lane divided urban blvd. w/median - 150' ROW	Five lane thoroughfare w/curb & gutter - 90' ROW
NC 150	Four lane divided w/median - 200' ROW	Not applicable

Source: Catawba County 1991 Thoroughfare Plan, Hickory-Newton-Conover Urban Area Transportation Plan

Special Legislation and Thoroughfare Protection

The N.C. General Assembly has given Catawba County the authority to assist in thoroughfare plan implementation. The County may expend funds and exercise the power of eminent domain for the purpose of acquiring land or rights-of-way for thoroughfare construction and improvement projects. These projects must be included in: 1) a DOT annual construction program or a multi-year transportation improvement program; 2) a roadway corridor official map adopted by the Board of Transportation or a municipal governing board; 3) a comprehensive street system plan, collector street plan, or thoroughfare plan adopted by local governments or their planning agencies; or 4) a transportation improvement plan adopted by a metropolitan planning organization. The County may accept donations and dedications of land or rights-of-way for the thoroughfare construction and improvements included in the official plans and programs listed above. Also, the County may enter into agreements with one of its municipalities in order to provide funding assistance for the purpose of acquiring land or rights-of-way for future thoroughfares.

This ability to acquire land for road improvements could be used to help speed along the road construction/improvement process. By the County acquiring rights-of-way, NCDOT may move a road project up in the funding process. Also, the County could try to obtain extra land

for the implementation of bicycle and sidewalk improvements to projects under consideration by DOT.

Bicycle & Pedestrian Inventory and Analysis

Sidewalks are integral transportation facilities in most urban and suburban areas. The cities of Hickory, Conover, and Newton have extensive sidewalk networks. However, the County, like most counties, has not typically been involved with this type of public improvement. One of the reasons for this may be the reliance upon the Department of Transportation for road improvements. Also, rural areas typically do not offer destinations that are within a comfortable walking distance. With the influx of development into rural areas around the County, this type of need is beginning to present itself. As neighborhoods are platted and new roads are improved to meet Catawba County's high growth demands, sidewalks are becoming more of a necessity.

The Hickory-Newton-Conover Thoroughfare Plan places emphasis on the addition of sidewalks and bicycle improvements to some major road widening projects. The majority of the emphasis is within municipal boundaries, however some County roads have been considered. The proposed road improvements that would include sidewalk facilities in the County's jurisdiction are portions of NC 127, Startown Rd., Zion Church Rd., and Robinson Rd. In addition to these proposed sidewalk improvements it would be beneficial to the County to include sidewalk requirements or to offer incentives to developers of major subdivisions where there is determined to be a need. In situations where sidewalks would not be practical or beneficial, widening and paving of road shoulders may suffice.

The MPO plan shows the existing and proposed bicycle routes in the County. It recommends that all new road projects include a four foot increase in pavement width to accommodate cyclists. The major thoroughfare projects that would include widening for bike lanes are NC 10, NC 127, NC 16, and Startown Rd. Bicycle facilities should be considered along with sidewalks. These, in addition to greenways, provide an alternative form of transportation and recreation to area residents.

The County currently has one high-growth area which is not addressed by the MPO or the Catawba County plan concerning sidewalks and bicycle routes/facilities. NC 150 is currently experiencing high suburban type growth. The potential for increased development around Lake Norman will further strengthen this need. This area for development is prime for sidewalk or bikeway location due to its neighborhood-type setting. Sidewalks could link nearby subdivisions and offer residents an opportunity to safely walk, jog, or bike to other neighborhoods, parks, the library or bus stops.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 has made it easier for local communities to implement alternative transportation improvements such as sidewalks, bikepaths, greenways, and other related projects. The Act requires that a bicycle and pedestrian plan be in place for the area. A plan of this type has been adopted for the MPO, but this has not been done for the entire County. The portion of the County lying outside of the MPO should be studied to determine the impacts of bicycle and pedestrian facilities, and assess whether or not the need is there.

NCDOT has supplemented ISTEA by developing a policy in 1993 that assists local governments in the construction of sidewalks along new roads or those undergoing improvement projects. Also, the State has established the Bicycle Transportation Improvement Program. This program is similar to the traditional TIP; however, deals only with bicycle and pedestrian facilities.

Accident Statistics

In 1997 Catawba County was ranked eleventh in the State in traffic safety by the Department of Motor Vehicles. This ranking was based on several factors, including reported crashes, crash severity, crash rates based on population, registered vehicles, and estimated vehicle-miles traveled. Pitt County, similar in size to Catawba, is ranked number 10 and in this survey Richmond County was number one. This study also shows that Catawba County is ranked tenth in registered vehicles and fourteenth in estimated average annual miles traveled.

AAA of the Carolinas has also compiled a ranking of the State's counties based on traffic safety. This survey lists Catawba County as ninth most dangerous, with Mecklenburg being the most dangerous. These rankings were based on the following formula: sum of (% of collisions - % of VMT (Vehicle Miles Traveled)) + (% of injury - % of VMT) + (% of deaths - VMT). In both studies it shows that the correlation between population (10th) and county ranking (11th and 9th respectively) is about equal.

In 1995 Catawba County ranked 4th worst in the State in Vehicle Accident Rate (reportable accidents divided by population expressed in hundreds) with a rate of 37.9. This ranking has worsened since 1980 when Catawba County ranked 7th statewide.

VisionQuest 2010 Applicability

The County's Comprehensive Plan, VisionQuest 2010 describes the Transportation Goal as follows: *"To provide for safe and efficient transportation systems that support desired growth and development patterns and resource conservation objectives."* VisionQuest also lists

twelve policies and four recommended actions specifically related to transportation and traffic circulation. These have been addressed as part of the Growth Strategies Report.